

REMARKS

Claims 8, 22, 43 and 48-50 have been cancelled. New claims 52 and 53 have been added. Thus, claims 1 - 7, 9 - 21, 23 - 42, 44 - 47 and 51 - 53 are now pending in the present application. No new matter has been added. Applicants would like to thank the Examiner for indicating the allowance of claims 25 - 39 and 44 - 46. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are in condition for allowance.

Claims 1 - 4, 6, 7, 9 - 21, 24, 40 - 42, 47 and 51 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Esser (U.S. Patent No. 6,096,040) in view of Kondo (U.S. Patent No. 3,779,240). (See 10/6/08 Office Action, pp. 2 - 4).

Claim 1 recites a plate for fixation of proximal humerus fractures comprising an elongated shaft portion and a head portion connected to the shaft portion and having a width greater than the width of the shaft, the head portion and the shaft portion defining a common longitudinal axis. The plate includes “at least one first screw hole in the head portion and at least one second screw hole located in the shaft portion, the at least one second screw hole having an elongated perimeter...*formed by first and second overlapping shapes of different size*. The plate further comprises a plurality of second screw holes in the shaft portion “symmetrically arranged about the common longitudinal axis” and a plurality of first screw holes in the head portion “asymmetrically arranged about the common longitudinal axis...*at least one of an upper surface and a lower surface of the bone plate [being] divided substantially in half by the common longitudinal axis, and wherein at least a first pair of the first holes is symmetrically disposed about the longitudinal axis, and at least a second pair of the first holes is asymmetrically disposed about the longitudinal axis.*”

Initially, it is respectfully submitted that Esser fails to teach or suggest a bone plate “*divided substantially in half by a common longitudinal axis,*” as recited in claim 1. The longitudinal axis of the plate of Esser extends centrally through the holes 48 of the shaft portion 32. (See Esser, col. 4, ll. 28 - 40; Fig. 2). The bone plate 30 of Esser includes an oblong head portion 34 comprising a first head section 53 and a section head section 54 formed on opposite lateral sides of the common longitudinal axis. The head sections 53 and 54 are shaped differently from one another and, thus, the head portion 34 of Esser is not divided in half by the longitudinal

axis. (See Esser, col. 4, li. 41 – col. 5, li. 11; Fig. 2). Specifically, the first head section 53 has a generally trapezoidal shape and extends laterally away from and generally perpendicular to the longitudinal axis while the second head section 54 has a generally curved shape and extends laterally away from a second side 38 of the common longitudinal axis. (*Id.*). Furthermore, the head section 54 extends proximally beyond the proximal end of the head section 53 and substantially all of the bone plate 30 proximal of the head section 53 is on one side of the axis. It is therefore submitted that the bone plate 30 of Esser is not “divided in half by the common longitudinal axis,” as recited in claim 1. Furthermore, it is respectfully submitted that the bone plate 30 of Esser can not be modified to meet the aforementioned limitation as Esser explicitly states that the curvature of the head portion 34 is chosen to match the shape and contour of a head of an unfractured proximal humerus. (See Esser, col. 6, li. 59 - 64). Kondo fails to cure this deficiency in Esser. It is therefore submitted that Esser and Kondo, taken either alone or in combination, fail to teach or suggest a bone plate “*wherein at least one of an upper surface and a lower surface of the bone plate is divided substantially in half by the common longitudinal axis,*” as recited in claim 1 and that claim 1 is allowable over Esser and Kondo for at least this reason.

Furthermore, Esser fails to teach or suggest a bone plate that includes a plurality of first screw holes asymmetrically disposed within the head portion, with “*at least a first pair of the first holes [being] symmetrically disposed about the longitudinal axis,*” as recited in claim 1. The Examiner has not cited anything in Esser to meet this limitation. Rather, it is respectfully submitted that there are no two holes in the head portion 34 of Esser that are symmetrically disposed about the longitudinal axis. Kondo also fails to cure this deficiency in Esser. It is therefore submitted that claim 1 is allowable over Esser and Kondo for at least this additional reason.

Still further, it is respectfully submitted that Esser fails to teach or suggest a second screw hole wherein “*the elongated perimeter of the at least one second screw hole is formed by first and second overlapping shapes of different size,*” as recited in claim 1. The Examiner has cited Kondo to overcome this deficiency. However, it is respectfully submitted that Kondo, too, fails to teach or suggest a “*second screw hole is formed by first and second overlapping shapes of different size,*” as recited in claim 1. Rather, Kondo only teaches a hole 24 made up of a large circle *a* and a small circle *b* connected to one another by a pair of tangential lines *c* to form a pear shaped hole. (See Kondo, col. 2, li. 49 - 54; col. 3, li. 12 - 22; Fig. 2). Kondo does not teach

or suggest that the a large circle *a* and a small circle *b* are “overlapping,” as recited in claim 1. It is therefore respectfully submitted that neither Esser nor Kondo teach or suggest “a second screw hole wherein *“the elongated perimeter of the at least one second screw hole is formed by first and second overlapping shapes of different size,”* as recited in claim 1.

In light of the above, it is respectfully submitted that neither Esser nor Kondo, taken alone or in combination, teach or suggest a bone plate for fixation of proximal humerus fractures comprising “an elongated shaft portion having a first width; a head portion connected to the shaft portion and having a second width greater than the first width, the head portion and the shaft portion defining a common longitudinal axis; at least one first screw hole located in the head portion; at least one second screw hole located in the shaft portion, the at least one second screw hole having an elongated perimeter; wherein at least one of the first and second screw holes is configured to engage a head of a bone screw to form an angularly stable connection with the bone screw and *the elongated perimeter of the at least one second screw hole is formed by first and second overlapping shapes of different size* and wherein the plate further comprises a plurality of first screw holes in the head portion, and a plurality of second screw holes in the shaft portion, wherein the plurality of second screw holes are symmetrically arranged about the common longitudinal axis and the plurality of first screw holes are asymmetrically arranged about the common longitudinal axis *wherein at least one of an upper surface and a lower surface of the bone plate is divided substantially in half by the common longitudinal axis, and wherein at least a first pair of the first holes is symmetrically disposed about the longitudinal axis, and at least a second pair of the first holes is asymmetrically disposed about the longitudinal axis,”* as recited in claim 1 and that claim 1 is therefore in condition for allowance. Since claims 2 - 4, 6, 7, 9 - 21, 23 - 24, 40 - 42, 47 and 51 depend from and therefore include all of the limitations of claim 1, it is respectfully submitted that these claims are also allowable.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Esser in view of Kondo, in further view of Schafer (U.S. Patent No. 6,572,622). (See 10/6/08 Office Action, p.4).

Claim 5 depends from and, therefore, includes all of the limitations of claim 1. It is respectfully submitted that neither Esser nor Kondo nor Schafer, either alone or in any combination, teach or suggest the aforementioned limitations of claim 1. It is therefore respectfully submitted that claim 5 is allowable as being dependent on an allowable base claim.

New claim 52 recites a bone plate including limitations substantially similar to those of claim 1 including “a head connected to a shaft and having a width greater than a width of the shaft, *the head and the shaft being substantially symmetrically divided by a common longitudinal axis*” and “a plurality of first screw holes extending through the head asymmetrically with respect to the longitudinal axis” in combination with “a plurality of second screw holes extending through the shaft substantially symmetrically with respect to the longitudinal axis, a first one of the second screw holes having *an elongated perimeter formed by first and second overlapping shapes of different size*, one of the first and second screw holes being configured to engage a head of a bone screw to form an angularly stable connection therewith.”

Claim 53 which depends from claim 52 states that “a first one of the first holes is positioned on a first side of the longitudinal axis symmetrically with respect to a second one of the first holes located on a second side of the longitudinal axis.”

It is therefore respectfully submitted that claims 52 and claim 53 are allowable for the same reasons stated above in regard to claim 1.

It is therefore respectfully submitted that all of the presently pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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By 

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